APEX FLAVORS, INC.

SAFETY DATA SHEET.



This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Revision Date 21-Mar-2019 Version 5

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Code(s) 398CBD

Product name COOKIE BUTTER TYPE FLAVOR, NATURAL (OIL SOLUBLE)

Pure substance/mixtureContains BENZYL ALCOHOL, CINNAMIC ALDEHYDE

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Ingredient for further processing

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Manufacturer Apex Flavors, Inc.

1371 Brass Mill Rd.

Suite A

Belcamp, MD 21017 (410) 565-6600

For further information, please contact:

E-mail Address cpisano@apexflavors.com

1.4. Emergency telephone number

Emergency telephone Chemtrec: 1-800-424-9300 for US/ 703-527-3887 outside US

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

REGGERMON (EG) NO 1272/2000	
Acute toxicity - Inhalation (Vapors)	Category 4 - (H332)
Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitization	Category 1 - (H317)
Specific target organ systemic toxicity (repeated exposure)	Category 1 - (H372)
Chronic aquatic toxicity	Category 3 - (H412)

2.2. Label elements

Product identifier

Contains BENZYL ALCOHOL, CINNAMIC ALDEHYDE

Signal Word Danger

Hazard Statements

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H412 - Harmful to aquatic life with long lasting effects

H332 - Harmful if inhaled

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

Contains ACETYL PROPIONYL FCC (2,3 PENTANEDIONE), LIMONENE EUH208 - May produce an allergic reaction

Precautionary Statements - EU (§28, 1272/2008)

P310 - Immediately call a POISON CENTER or doctor

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P280 - Wear eye protection/ face protection

P273 - Avoid release to the environment

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

2.3. Other information

No information available

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Chemical Name	EC-No	CAS-No	Weight %	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Trade Secret	Listed	-	5-10%	Acute Tox. 5 (H333) Acute Tox. 4 (H302)	No data available
Trade Secret	Listed	-	1-5%	Aquatic Acute 2 (H401) (EFFA) Skin Sens. 1 (H317) (EFFA) Eye Irrit. 1 (H319) (EFFA) Skin Irrit. 2 (315) (EFFA) Acute Tox. 5 (H303)(EFFA) Acute Tox. 4 (H312)(EFFA)	No data available
ACETYL PROPIONYL FCC (2,3 PENTANEDIONE)	209-984-8	600-14-6	<1%	No data available	No data available
Trade Secret	Listed	-	<1%	Acute Tox. 4 (H302) Aquatic Acute 2 (H401) (EFFA) Eye Irrit. 1 (H319) (EFFA) Skin Irrit. 3 (316) (EFFA) Acute Tox. 4 (H302) (EFFA) Flam. Liq. 4 (H227)(EFFA) Acute Tox. 4 (H332)(EFFA) Aquatic Acute 2 (H401) Eye Irrit. 1 (H319) Skin Irrit. 3 (H316) Acute Tox. 4 (H302) Acute Tox. 4 (H332)	No data available
PINENES	201-291-9	80-56-8	<1%	Aquatic Acute 1 (H400) Skin Sens. 1 (H317) Skin Irrit. 1 (H315) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410)	No data available

				Acute Tox. 5 (H303) Flam. Liq. 3 (H226)	
Trade Secret	Listed	-	<1%	Aquatic Acute 1 (H400) Skin Sens. 1 (H317) Skin Irrit. 1 (H315) Asp. Tox. 1 (H304) Aquatic Chronic 1 (H410) Flam. Liq. 3 (H226)	No data available
Trade Secret	Listed	-	<1%	Skin Sens. 1 (H317) (EFFA) Acute Tox. 5 (H303)(EFFA) Aquatic Acute 2 (H401)(EFFA)	No data available
Trade Secret	Listed	-	<1%	Aquatic Acute 2 (H401) Skin Irrit. 3 (H316) Acute Tox. 4 (H302) Acute Tox. 5 (H313) Flam. Liq. 4 (H227)	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

Full text of H- and EUH-phrases: see section 16

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice If symptoms persist, call a physician.

Inhalation Immediate medical attention is not required. If symptoms persist, call a physician. Move to

fresh air in case of accidental inhalation of vapors or decomposition products.

Skin contact Immediate medical attention is not required. Wash off immediately with soap and plenty of

water while removing all contaminated clothes and shoes. If skin irritation persists, call a

physician.

Eye contact Immediately flush with plenty of water. After initial flushing, remove any contact lenses and

continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms

persist, call a physician.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth

to an unconscious person. Call a physician. Do NOT induce vomiting.

Self-protection of the first aiderUse personal protective equipment.

4.2. Most important symptoms and effects, both acute and delayed

Main Symptoms No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use. Dry chemical. Carbon dioxide CO2. Water spray. Alcohol-resistant foam.

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition Risk of ignition

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Use personal protective equipment. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against static discharges.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled

containers. Take precautionary measures against static discharges.

6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Use only in area provided with appropriate exhaust ventilation. Do not breathe dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. For personal protection see section 8. Keep away from heat, sparks and open flame. No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

General Hygiene Considerations

When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep away from heat and sources of ignition. Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat. Keep in properly labeled containers.

Incompatible products

None known based on information supplied.

7.3 Specific end use(s)

Risk Management Methods (RMM)

The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical Name	European Union	The United Kingdom	France	Spain	Germany
PINENES 80-56-8	-	-	-	VLA-ED: 20 ppm VLA-ED: 113 mg/m ³	-
Chemical Name	Italy	Portugal	The Netherlands	Finland	Denmark
Trade Secret	-	-	-	TWA: 10 ppm TWA: 45 mg/m ³	-
Trade Secret	-	-	-	TWA: 1 ppm TWA: 4.4 mg/m³ STEL: 4 ppm STEL: 17.4 mg/m³ Ceiling: 4 ppm Ceiling: 17.4 mg/m³	-
PINENES 80-56-8	-	TWA: 20 ppm	-	-	-
Trade Secret	-	-	-	TWA: 25 ppm TWA: 140 mg/m³ STEL: 50 ppm STEL: 280 mg/m³	-
Trade Secret	-	-	-	TWA: 1 ppm TWA: 4.4 mg/m³ STEL: 4 ppm STEL: 17.4 mg/m³ Ceiling: 4 ppm Ceiling: 17.4 mg/m³	•
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Trade Secret	-	-	NDS: 240 mg/m ³	-	-
Trade Secret	-	-	STEL: 40 mg/m ³ TWA: 10 mg/m ³	-	-
PINENES 80-56-8	_	-	-	TWA: 25 ppm TWA: 140 mg/m³ Skin STEL: 37.5 ppm STEL: 175 mg/m³	_
Trade Secret	-	STEL: 40 ppm STEL: 220 mg/m³ MAK: 20 ppm MAK: 110 mg/m³	-	TWA: 25 ppm TWA: 140 mg/m³ STEL: 37.5 ppm STEL: 175 mg/m³	-
Trade Secret	-	-	NDSCh: 40 mg/m ³ NDS: 10 mg/m ³	-	-

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles.

Skin and body protection Respiratory protection

Long sleeved clothing. Chemical resistant apron. Antistatic boots. Impervious gloves.

NIOSH/MSHA approved respiratory protection is required to be worn.

Environmental Exposure Controls

No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state liquid Appearance clear

Odor sweet buttery vanilla bakery and spice notes

Color yellow

<u>Property</u> <u>Values</u> <u>• Method</u>

pH No information available

Melting/freezing point

No information available

Boiling point/boiling rangeFCC Method
Flash Point

86 °C / 186 °F

Closed cup

Evaporation rate FCC Method

Flammability (solid, gas)

No information available

Flammability Limits in Air

Upper flammability limit
Iower flammability limit
Vapor pressure mm Hg 20°C
Vapor density
Relative density
No information available
No information available
No information available
No information available

 Specific Gravity @ 25C
 0.9353 - 0.9653
 FCC Method

 Specific Gravity @ 20C
 0.9383 - 0.9683
 FCC Method

Specific Gravity @ 20C0.9383 - 0.9683FCC MethodRefractive Index1.4627 - 1.4927FCC MethodWater solubilityNo information available

Solubility in other solvents

Partition coefficient: n-octanol/water

Autoignition temperature

Decomposition temperature

Viscosity, kinematic

Viscosity, dynamic

No information available

Explosive propertiesOxidizing Properties
No information available
No information available

9.2. Other information

Softening point
Molecular Weight
VOC Content(%)
Density VALUE
No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact none. Sensitivity to Static Discharge Yes.

10.3. Possibility of hazardous reactions

Hazardous Reactions

None under normal processing.

10.4. Conditions to avoid

Heat, flames and sparks.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

None under normal use conditions.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information

Product does not present an acute toxicity hazard based on known or supplied information.

InhalationThere is no data available for this product.Eye contactThere is no data available for this product.Skin contactThere is no data available for this product.IngestionThere is no data available for this product.

The following values are calculated based on chapter 3.1 of the GHS document

 ATEmix (oral)
 2,910.00 mg/kg

 ATEmix (dermal)
 3,151.00 mg/kg

 ATEmix (inhalation-dust/mist)
 0.07 mg/l

 ATEmix (inhalation-vapor)
 16.00 mg/l

Unknown Acute Toxicity

96.6212% of the mixture consists of ingredient(s) of unknown toxicity.

59.7102 % of the mixture consists of ingredient(s) of unknown acute oral toxicity. 81.7102 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity.

96.6212 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas). 88.6212 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

88.6212 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

Oral LD50

Chemical Name	Oral LD50	Dermal LD50	LC50 Inhalation
Trade Secret	1230 mg/kg (Rat)	2000 mg/kg (Rabbit)	8.8 mg/L (Rat) 4 h
ACETYL METHYL CARBINOL	5 g/kg (Rat)	5 g/kg (Rabbit)	
Trade Secret	2200 mg/kg (Rat)	2000 mg/kg (Rat) 2000 mg/kg (
		Rabbit)	
Trade Secret	1292 mg/kg (Rat)	1250 mg/kg (Rabbit)	
BUTYRIC ACID	1500 mg/kg (Rat)	530 μL/kg (Rabbit)	
PINENES	2100 mg/kg (Rat)	5000 mg/kg (Rat)	
Trade Secret	1790 mg/kg (Rat)	790 μL/kg (Rabbit)	1.38 mg/L (Rat) 4 h

Skin corrosion/irritationNo information available.

Eye damage/irritation No information available.

Sensitization No information available.

Germ Cell Mutagenicity No information available.

No information available. Carcinogenicity

No information available. Reproductive toxicity

Specific target organ systemic

toxicity (single exposure)

No information available.

Specific target organ systemic toxicity (repeated exposure)

No information available.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Harmful to aquatic life Harmful to aquatic life with long lasting effects **Ecotoxicity**

5.0102% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Trade Secret	35: 3 h Anabaena variabilis mg/L EC50	10: 96 h Lepomis macrochirus mg/L LC50 static 460: 96 h Pimephales	23: 48 h water flea mg/L EC50
Trade Secret	-	promelas mg/L LC50 static 10.6 - 11.8: 96 h Oncorhynchus mykiss mg/L LC50 flow-through	50: 24 h Daphnia magna mg/L EC50
		12.69: 96 h Oncorhynchus mykiss mg/L LC50 static 0.8 - 1.44: 96 h Lepomis macrochirus mg/L LC50	
		flow-through 6.8 - 8.53: 96 h Pimephales promelas mg/L LC50	
BINENEO		flow-through 7.5: 96 h Lepomis macrochirus mg/L LC50 static	
PINENES	-	0.28: 96 h Pimephales promelas mg/L LC50 static	41: 48 h Daphnia magna mg/L LC50
Trade Secret	-	0.619-0.796: 96 h Pimephales promelas mg/L LC50 flow-through 35: 96 h Oncorhynchus mykiss mg/L LC50	-
Trade Secret	-	0.8-1.44: 96 h Lepomis macrochirus mg/L LC50 flow-through 10.6-11.8: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 12.69: 96 h Oncorhynchus mykiss mg/L LC50	50: 24 h Daphnia magna mg/L EC50
		static 6.8-8.53: 96 h Pimephales promelas mg/L LC50 flow-through 7.5: 96 h Lepomis macrochirus mg/L LC50 static	

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical Name	log Pow
Trade Secret	1.1
Trade Secret	2.22
Trade Secret	1.48

PINENES	4.1
Trade Secret	1.48

12.4. Mobility in soil

Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused

products

Dispose of in accordance with local regulations.

Contaminated packaging Empty remaining contents.

Section 14: TRANSPORT INFORMATION

IMDG / IMO

14.1 UN/ID No	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated

DOT/ADR/RID

14.1 UN/ID No	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated

ICAO/IATA

14.1 UN/ID No	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
44.6 Chaolal Draviolana	Nono

14.6 Special Provisions None

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Authorizations and/or restrictions on use:

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009 Not applicable

International Inventories

TSCA
DSL/NDSL
EINECS/ELINCS
ENCS
IECSC
KECL
PICCS
AICS

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

No information available

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of R-phrases referred to under sections 2 and 3

No information available

Full text of H-Statements referred to under section 3

H333 - May be harmful if inhaled

H302 - Harmful if swallowed

H401 - Toxic to aquatic life

H319 - Causes serious eye irritation

H227 - Combustible liquid

H332 - Harmful if inhaled

H316 - Causes mild skin irritation

H313 - May be harmful in contact with skin

H317 - May cause an allergic skin reaction

H303 - May be harmful if swallowed

H312 - Harmful in contact with skin

H400 - Very toxic to aquatic life

H315 - Causes skin irritation

H304 - May be fatal if swallowed and enters airways

H410 - Very toxic to aquatic life with long lasting effects

H226 - Flammable liquid and vapor

Legend

SVHC: Substances of Very High Concern for Authorization:

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA: Time weighted average STEL: Short term exposure limit

Ceiling: Maximum limit value: * Skin designation

Revision Date 21-Mar-2019

Reason for revision: Not applicable.

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

WARNING/DISCLAIMER:

Apex Flavors, Inc.'s products are sold exclusively for use in food and drink for human consumption. These products have not been tested, nor have they been deemed safe, for inhalation or use in electronic smoking devices, electronic nicotine delivery systems, and electronic cigarettes or similar devices (collectively "E-Cigarettes"). In supplying this product(s), Apex Flavors, Inc. instructs, and purchasing recipient confirms, that this product(s) will not be used in connection with the manufacture and distribution of E-Cigarettes or any component thereof. Recipients of our products that use them outside of their intended use of food or drink do so at their own risk and without warranty, either expressed or implied, from Apex Flavors, Inc. or its suppliers. The user assumes all liability for loss, injury, damage, or expense resulting from such uses.